The Paleospecies of Woodpeckers

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The fossil history of the woodpeckers, comprising the family Picidae, has been alleged to extend back into the early Tertiary. The reports of supposed woodpeckers covering the span from the Eocene through the Miocene epochs were published during the infancy of paleornithology nearly a century ago, and it now appears that all such records should be referred to other families in the order Piciformes or even to entirely different orders.

Alleged Early Tertiary Woodpeckers

From Aquitanian deposits in France, Milne-Edwards (1871) described two supposed woodpeckers, *Picus archiaci* and *Picus consobrinus*. Lambrecht (1933) not only retained them in the Picidae but even erected the genus *Palaeopicus* for them. Ballman (1969) demonstrated that they are not woodpeckers but belong in the order Coliiformes, presently confined to Africa.

Marsh (1872) described *Uintornis lucaris* from the middle Eocene of Wyoming and stated that it was probably related to the woodpeckers. He did not illustrate his type, but Shufeldt (1915) published a life-sized photograph of the tiny specimen and stated that it was in no way related to the woodpeckers. On the basis of Shufeldt's photograph I recently attempted to place *Uintornis* in the Bucconidae (Brodkorb, 1970), but Joel Cracraft has now sent me enlarged photographs of the type, which show that it is referable to the Cuculidae.

Depéret (1887) described *Picus gaudryi*, still another supposed woodpecker, from the Tortonian Miocene of France. The name was based on a femur and a tentatively referred distal part of a tibiotarsus, the latter without any description. Nothing in the brief characterization of the femur is diagnostic of the Picidae. The head of the femur is too flat proximally, and its neck lacks the constriction present in the Picidae. The drawing also fails to show the prominently raised area of attachment of the iliacus muscle external to the anterior intermuscular line, characteristic of the woodpeckers. The distal end is depicted as being strongly inflected, whereas in

woodpeckers the femur is straight, with the condyles expanding to both sides. If the drawing is accurate, the type cannot represent a woodpecker.

Pliocene and Pleistocene Woodpeckers

Valid paleospecies of woodpeckers are known only from the Pliocene and Pleistocene epochs of North America. They include *Pliopicus brodkorbi* Feduccia and Wilson (1967) and *Palaeonerpes shorti* Cracraft and Morony (1969) from the Lower Pliocene of Kansas and Nebraska, respectively, and *Bathoceleus hypalus* Brodkorb (1959) from the Upper Pleistocene of the Bahamas. Additionally, 28 neospecies of woodpeckers are recorded from Pleistocene deposits in the Holarctic and Neotropical regions.

A Blancan Ivory-billed Woodpecker

In western Texas Dr. Walter W. Dalquest recently discovered a rich vertebrate fossil locality, in which the most abundant large mammal is a three-toed horse, *Nannippus phlegon* (Hay). Remains of birds are common in this deposit and include a specimen of a large woodpecker. Related to the Guatemalan ivory-billed woodpecker, it represents a Neotropical element in the fauna. This fifth paleospecies of woodpecker is described below.

Campephilus dalquesti, new species

Holotype. Distal half of left tarsometatarsus (Fig. 1) collected in 1969 by Walter W. Dalquest, Midwestern University, in the Upper Pliocene (early Blancan) "black quarry", on Beck Ranch, just south of U.S. Highway 180 and about 10 miles east of Snyder, Scurry County, Texas.

Generic Diagnosis. Tarsometatarsus large, as in *Campephilus* Gray and *Dryocopus* Koch (smaller in other genera of Picidae). Agrees with *Campephilus* in having (1) shaft wide and stout, with only slight compression near middle (in *Dryocopus* shaft narrower, much compressed near middle, and flaring distally); (2) area of attachment for metatarsal I wide, indicating a large hallux (articular area smaller in *Dryocopus*, which has a relatively small inner

Fig. 1. *Campephilus dalquesti,* n.sp. Holotype tarsometatarsus, Midwestern University, from Scurry County, Texas. Length as preserved, 34.8 mm.

hind toe); (3) area proximal to middle trochlea with a deep fossa for reception of talon of basal phalarx of outer front toe (fossa shallow in *Dryocopus*).

Specific Diagnosis. Tarsometatarsus with shaft slightly compressed subterminally (as in recent *C. principalis* (Linnaeus) of southeastern United States wide throughout in recent *C. guatemalensis* (Hartlaub) of Middle America and recent *C. rubricollis* (Boddaert) of South America. External distal foramen small but in normal position low on shaft (as in *C. guatemalensis*; small but elevated on shaft in *C. rubricollis*; large and low in *C. principalis*). Internal distal foramen minute and much lower than external foramen (minute and slightly higher than external foramen in *C. guate-*

malensis; minutely open only on plantar surface and lower than external foramen in *C. rubricollis*; larger than external foramen and slightly lower in *C. principalis*). Facet for metatarsal I wide and deep (indistinct in *C. guatemalensis, rubricollis,* and *principalis*). Base of inner trochlea flaring smoothly from shaft (as in *C. principalis* and *rubricollis*; edge of trochlea with a marked protuberance in *C. guatemalensis*). Middle trochlea wide, 74 per cent of least width of shaft (70 per cent in *C. principalis,* 67 per cent in *C. rubricollis,* 56 per cent in *C. guatemalensis*). Rotular groove of middle trochlea wide and shallow with its inner rim slightly overhanging side of trochlea (as in *C. principalis*; groove wide and deep with inner rim strongly overhanging side of trochlea in *C. rubricollis*; groove narrow and deep with inner rim strongly overhanging side of trochlea in *C. guatemalensis*). Outer trochlea with a deep depression at base of its outer face (as in *C. principalis* and *guatemalensis*; depression shallow in *C. rubricollis*). Accessory trochlea turned back somewhat less than 90 degrees from anterior plane of shaft (turned about 90 degrees in *C. principalis*; more than 90 degrees in *C. guatemalensis* and *rubricollis*).

Measurements. Size similar to that of *C. guatemalensis* and *rubricollis* (much greater in *C. principalis*). Length of preserved portion of tarsometatarsus, 24.7 mm (length of entire bone 34.8 in *C. rubricollis,* 36.1 in *C. guatemalensis,* 47.4 in *C. principalis*; 27.4-31.9 in 3 Recent *Dryocopus lineatus* (Linnaeus) from Mexico and Surinam; 35.4-36.8 in 3 Recent *D pileatus* (Linnaeus) from Florida; 37.1 in 1 Recent *D. martius* (Linnaeus) from Russia). Least width of shaft, 3.1 (3.0 in *C. rubricollis,* 3.4 in *C. guatemalensis,* 4.0 in *C. principalis*; 2.1-2.5 in *D. lineatus,* 2.5 in *D. pileatus,* 2.5 in *D. martius*). Width of middle trochlea, 2.3 (2.0 in *C. rubricollis,* 1.9 in *C. guatemalensis,* 2.8 in *C. principalis*; 1.8-2.1 in *D. lineatus,* 2.0-2.1 in *D. pileatus,* 2.0 in *D. martius*). Depth through accessory trochlea, 5.5 (5.0 in *C. rubricollis,* 5.6 in *C. guatemalensis,* 6.5 in *C. principalis*; 4.3-4.75 in *D. lineatus,* 4.9-5.2 in *D. pileatus,* 4.7 in *D. martius*). Least depth of shaft, 2.7 (2.7 in *C. rubricollis,* 2.5 in *C. guatemalensis,* 2.9 in *C. principalis*; 1.8-2.05 in *D. lineatus,* 2.1-2.5 in *D. pileatus,* 2.1 in *D. martius*).

Acknowledgments. I am happy to dedicate this new species to Dr. Walter W. Dalquest in recognition of his extensive work on the vertebrate paleontology of Texas, and for allowing me to study the

birds of this and other localities. I am also indebted to Dr. Richard Zusi for the loan of the specimen of *C. principalis* from the Fuert village site in Ohio (see Wetmore, 1943).

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